

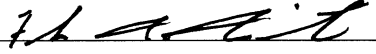
Title: Appendix A-F Quality Management Plan for Cost Engineering				
QMP 01-A-F	Issue: 1	Revision: 2	Date: 16 March 2000	Proponent Office: CESP-K-ED-C (100)

Appendix A-F


Quality Management Plan

for

Cost Engineering

Authorized by: Frank W. Winton, Management Representative,  _____
Engineering Division (ED)

Author: Frank Y.F. Fong

Approved by: Frank Y.F. Fong, Chief, Cost Engineering Branch  _____

Changes to this document require the concurrence of the Management Representative and approval by the Chief, Cost Engineering Branch, and shall only be made following the procedures described herein.

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1. Purpose

This Quality Management Plan (QMP) for Cost Engineering Branch defines the responsibilities and procedures by which the quality of cost engineering, and A/E negotiations services and products delivered to Sacramento District customers shall be managed. The activities cited in this QMP result from requirements specified in [ER 1110-1-12 \(Engineering and Design - Quality Management\)](#), dated 1 June 1993.

2. Scope

This QMP directly applies to all Cost Engineering Branch personnel, and as appropriate, to Civil Design Branch, Military Design Branch, Geotechnical Branch, Environmental Engineering Branch and Contracting Division. The intent is for the Sacramento District Cost Engineering Branch to deliver quality cost estimates and A/E services to our customers on schedule, within budget and in accordance with prescribed rules and regulations. A quality cost estimate is one that conforms to the customer's expectations and requirements, and most importantly, within budget. The level of quality to be provided for each cost estimate shall be in conformance with the scope, and properly developed design documents for that project.

3. References

There are reference documents for developing military, HTRW, and civil works cost estimates. Technical guidance required for military designs is listed in the Sacramento District Architect/Engineering Design Guide for Military Construction. All current regulations, technical manuals, technical letters, and standards listed are available in CESP-K-ED-C, Cost Engineering Branch Files. Depending upon the type of project, funding sources, and design complexity, various combinations of regulations, manuals, and guidance may apply. The primary Engineering documents containing guidance and design criteria that apply to completing estimates for "normal" military, HTRW, and civil works projects are listed below:

3.1 Military

- a. ER 415-345-42, Construction Costs, Cost Estimating & Reserve for Contingencies
- b. TM 5-800-2, Cost Estimates - Military Construction
- c. [EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule](#)
- d. MCACES Gold, Microcomputer Aided Cost Engineering System Instructions Users Manual
- e. AR 415-17, Cost Estimating for Military Programming
- f. ER 1110-1-1300, Cost Engineering Policy and General Requirements
- g. [FAR Part 36.203, Government Estimate of Construction Costs](#)

Region VII

3.2 Civil Works

- a. [ER 1105-2-100, Planning Procedures Baseline Cost Estimate](#)
- b. EM 1110-2-1302, Cost Estimates - Government Estimate of Fair and Reasonable Cost to Contractor
- c. ER 1110-1-1300, Cost Engineering Policy and General Requirements

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- d. MCACES Gold, Microcomputer Aided Cost Engineering System Instructions Users Manual
- e. [FAR Part 36.203, Government Estimate of Construction Costs](#)

3.3 HTRW

- a. [FAR Part 36.203, Government Estimate of Construction Costs](#)
- b. ER 1110-1-1300, Cost Engineering Policy and General Requirements
- c. [ER 1110-3-1301, Cost Engineering Policy and General Requirements for HTRW Remedial Action Cost Estimates](#)
- d. [EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule Region VII](#)
- e. TM 5-800-2, Cost Estimates - Military Construction
- f. Public Law (PL) 96-510, Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended by PL-99-499, the Superfund Amendments and Reauthorization Act of 1986
- g. PL-94-580, Resource Conservation and Recovery Act of 1976 as amended by PL 98-616, the Hazardous and Solid Waste Amendments of 1984
- h. [ER 5-1-11, Program and Project Management](#)
- i. [ER 415-1-16, Fiscal Management](#)
- j. [ER 1165-2-131, Local Cooperation Agreements for New Start Construction Projects](#)
- k. [ER 1165-2-132, Hazardous, Toxic, and Radioactive Waste \(HTRW\) Guidance for Civil Works Projects](#)
- l. [ER 1110-3-1300, Military Programs Cost Engineering](#)
- m. MCACES Gold, Microcomputer Aided Cost Engineering System Instructions Users Manual

4. Definitions

MCACES - Microcomputer Aided Cost Engineering System is the Corps automated cost estimating tool that can be used in the programming, planning, design and construction process (i.e., throughout the entire project delivery process). MCACES is fully implemented and operating in Cost Engineering Branch. Detailed cost estimates to support Civil Works, Military design projects, construction change orders, and majority of HTRW projects are developed using MCACES. Certain WFO and SFO projects, when requested by the customer, may be estimated via other appropriate methods such as the Air Force RACER cost estimating program.

Programmed Amount (PA) - The total funds, excluding design funds, available for the project.

Current Working Estimate (CWE) - The latest available cost estimate on a particular project. The estimate includes the estimated contract cost, an allowance for contingency reserve, and an allowance for construction supervision and administration costs.

Independent Government Estimate (IGE) - Independent, formal, and an approved construction cost estimate prepared in as great detail as the plans and specifications and as if the government was a fully equipped contractor in competition for the contract award. Government Estimate is used to determine the reasonableness of competitive bids received in connection with formally advertised construction contracts, and serves as a control in evaluating costs and pricing data in negotiated contracts.

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Products - Cost estimates for military construction are developed for all stages of design: project engineering (10%), concept (30%), preliminary (60%), final (90%) design, and bid estimates (IGE). Estimates prepared before final design are considered budget or control estimates to determine if the project as designed is within funding limits. The funding limit is typically referred to as the program amount. Estimates for civil works are developed for each stage, typically reconnaissance, feasibility, general design memorandum (GDM), feature design memorandums (FDM), and final design. HTRW estimates are primarily prepared at preliminary (60%), final (90%) design, and bid estimates (IGE/Control).

SFO/Special Project - Any project not generating normal design flow deliverables or fitting the normal programming cycle, e.g. Studies, Total Environmental Restoration Contract (TERC), JOC, and other miscellaneous projects or requests for service funded by a customer.

Support for Others (SFO) - Projects funded from other agencies.

Total Environmental Restoration Contract (TERC) - A contract vehicle by which a single contractor coordinates and accomplishes all aspects of the remediation on selected sites. These contracts are delivery order driven and are designed to accomplish all the work in a cradle to grave approach. The basic contract is generic as to type of contract, in that it contains all the clauses for service, construction, A-E and cost reimbursement. All work elements of the project are negotiated as individual delivery orders.

Job Order Contract (JOC) - An expedited construction procurement method for O & M projects that require limited Engineering Division effort to facilitate a construction start.

5. Responsibilities

All cost engineers will follow this procedure.

Branch Chief and Unit Leaders will ensure that all cost engineers and A/E negotiators follow this procedure.

The Chief, Cost Engineering Branch has the responsibility to approve or disapprove any deviations from this procedure.

6. Procedures

6.1 Receiving Customers and Distribution of Work

a. Receiving Work (Cost Engineering Units). Branch Chief and Unit leaders shall be the primary persons receiving work from branch customers. PMBP and MS Project shall be used for assessing workload. Scopes of Work and design documents shall be thoroughly checked for completeness and adequacy for negotiations and estimating purposes. Prior to commencement of work, a service fee must be reached with the customer, and a valid cost code furnished by the customer. The SOS must be completed and received prior to the commencement of work. The SOS is the execution contract between the customer and the A/E negotiations team or cost engineering team, and it reflects the agreed upon project schedule, budget and references. Mischarging to a project is prohibited.

b. Distribution and Completion of Work. Unit leaders shall assign and distribute work to the proper cost engineering or A/E negotiations team members immediately upon receipt of the work. Unit leaders and the lead cost engineer or the negotiators are responsible for the completion of the negotiation or the estimate. Estimates are to be delivered to the customers on time.

6.2 Execution Management Procedures

a. Receiving, Assigning and Completing Work. Procedures and responsibilities for these tasks shall be as follows:

1. Unit leader: Receives work; verifies adequacy of funds (cost codes), completeness of scope of work and design documents provided; fills out schedule input form; assigns and notifies cost engineers (prime and subs) of assignment within 24 hours; monitors work progress; maintains workload schedule; reviews ARMS comments, and forwards to PM as necessary; reviews completed in-house tasks; updates master schedule.

2. Cost engineer (prime): Combines prime and subs tasking; forwards ARMS comments to ARMS manager (secretary); provides back-up materials (including a 3-1/2" computer disk) to secretary for record keeping and filing; provides deliverables to customers.

3. Cost engineer (sub): completes and submits tasking to lead cost engineer 24 hours prior to the suspense date; forwards ARMS comments to ARMS manager (secretary); assists prime in completing tasking as necessary.

4. Secretary (ARMS manager): Upon receiving work, logs tasking into schedule program, indicates on form who worked on project before, and takes design documents and form to work leader for assignment; prints and provides work schedule to cost engineers at least twice a week, more frequent if warranted; routes ARMS tasking to reviewers; updates master schedule; forwards ARMS comments to ARMS system; files completed tasking; provides file labeling.

5. Branch chief: Receives work; monitors branch tasking and progress; maintain branch workload by using MS Project; discusses cost engineering policies and other problematic issues with customers and district elements.

b. A/E Negotiations Unit

1. Unit Leader receives work requests, reviews scopes of work (SOW), selects negotiator based on technical and scheduling requirements, prepares budgets for personnel working on negotiation package, obtains SOS from PM, and assigns work. Reviews government estimates, and completed negotiation packages. Maintains workload schedule.

2. Negotiator: Reviews SOW and determines whether a pre-negotiation conference should be held based on technical complexity of the work and whether A-E or PM is new to the Sacramento District process. Prepares government estimate. Receives A-E fee proposal and performs a technical analysis of reasonability of proposed effort and cost and prepares objectives. For large, > \$500,000 expected fees, has pre-negotiation objectives reviewed and approved by Contracting Officer prior to negotiations.

3. Administrative Unit: Logs in all assigned work. Maintains by A-E firm, all contracts, task orders and change orders. Prepares findings of fact and 3039 fund commitment documents and assembles package for review and issuance by the Contracting Officer. Inputs Architect-Engineer Contract Administration Support System (ACASS). Prepares documentation packages for unpriced change orders, exercise of contract options, and extension of periods of performance. Tracks design costs and updates to assure compliance with Brooks Bill 6% requirement.

4. Progress Payments (Admin sub-unit): Receives A-E requests for progress payments. Distributes to PMs for approval and then prepares documents in CEFMS for Contracting Officer approval in order to make payments in a timely manner.

5. Branch Chief: Receives Management guidance and distributes to Unit Leader for

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incorporation into Branch operating procedures. Tracks monthly workload to assure full-time assignments to negotiators and Admin Unit personnel. Assists in establishing policy and procedures for interface with Contracting Division and other district elements.

6. It is imperative for us to work as a team and support each other as necessary. The bottom line is to provide our customers with the best products, and on time.

6.3 Technical Quality Procedures

a. Independent Review. An independent review of the cost estimate and cost engineering assumptions shall be performed throughout the cost engineering process. All estimates shall be checked for accuracy, fair and reasonableness and budget restriction. The lead cost engineer and the unit leader shall conduct this effort. Other units shall independently review all bid estimates, and review shall be documented by completing the "Quality Control Estimate Review" form. A/E Negotiations: Unit leader shall review all A/E negotiation packages for their completeness, and compliance with all regulations prior forwarding to Contracting Division. Contracting Division will review and approve packages prior to the award of contracts.

b. Cost Estimate Processing Procedures. These procedures shall be in accordance with the Cost Engineering Branch, Standard Operating Procedures For Processing Cost Estimates. See Appendix A.

c. Cost Estimate Signature Procedures. Safeguarding of the government cost estimates is essential. To ensure only the authorized officials have access to the estimates, procedures prescribed in Appendix B shall be followed. All estimates must be contained in a green "Official Use Only" folder, and hand-carried for signature. Upon completion of signature, all estimates must be sealed in envelopes marked "For Official Use Only", and hand-carried to the Contracting Officer for safekeeping.

6.4 Quality Mechanism

The application of MCACES Gold and related technology has had a positive effect on every phase of the Cost Engineering process. This technology has proven its ability to enhance the quality of the cost estimates. The Sacramento District is 100% in utilizing the MCACES system (except for dredging, and some change-order Control Estimates). Future technology and software will continue to be developed and enhanced to meet the ever-increasing challenges of future cost engineering requirements. Internal software is currently used to monitor workload to ensure schedules and budgets are met. Other software is also used by Cost Engineers to enhance work quality, see Appendix C for detail.

7. Record

Final Government Estimate after contract award is maintained in ED-C, Project Files. The PM/PE will maintain project files for each project. The files will document all actions, processes, and products for each and all phases identified in paragraph 6.0 above. Official A/E contract files are maintained in Contracting Division. Project files associated with administering A/E design contracts are maintained in Cost Engineering Branch, A-E Negotiations Support Unit.

APPENDIX A-F-A

(March 2000)

STANDARD OPERATING PROCEDURES (SOP2)

PROCESSING COST ESTIMATES

DELIVERABLES

I. CIVIL WORKS AND HTRW DELIVERABLES

A. STUDIES (Draft or Final)

1. PRELIMINARY:

a) Deliver To Customer By Prime Cost Engineer Thru The Unit Leader (1 Printed Copy):

- (1) Summary of First Cost¹**
- (2) Estimate of First Costs**
- (3) Summary of Annual Costs¹**
- (4) Detailed Estimate of Annual Costs¹**

b) Secretary For File (1 Printed Copy):

- (1) Summary of First Cost¹**
- (2) Estimate of First Costs**
- (3) Summary of Annual Costs¹**
- (4) Detailed Estimate of Annual Costs¹**
Supporting Data:
- (5) Quotation Records**
- (6) Computation Sheets**

¹ When required by the Scope of Services.

- (7) Backup of Annual Costs¹
- (8) 3-1/2" Floppy Disks with All Project Files
- (9) File Folder

B. GENERAL INVESTIGATION SURVEYS (GIS) AND PLANNING
ENGINEERING DESIGN (PED) (Draft or Final)

1. RECONNAISSANCE PHASE:

- a) Deliver To Customer By Prime Cost Engineer Thru The Unit Leader (1 Printed Copy):
 - (1) Summary of First Cost
 - (2) Total Project cost summary (fully funded)¹
 - (3) Estimate of First Costs
 - (4) Contingency/Justification of First Costs¹
 - (5) Basis of First Costs¹
 - (6) Summary of Annual Costs
 - (7) Detailed Estimate of Annual Costs
 - (8) Basis of Annual Costs¹
 - (9) MCACES (Summary Sheets)^{1 2}
Supporting Data:
 - (10) MCACES (Complete Estimate)¹
- b) Secretary For File (1 Printed Copy):
 - (1) Summary of First Cost¹
 - (2) Estimate of First Costs
 - (3) Contingency Justification of First Costs
 - (4) Basis of First Costs¹
 - (5) Summary of Annual Costs¹
 - (6) Detailed Estimate of Annual Costs¹
 - (7) Basis of Annual Costs¹

² MCACES summary sheets for direct, indirect and owner costs to the sub-feature level.

- (8) MCACES (Summary Sheets)^{1 2}
Supporting Data:
- (9) MCACES (Complete Estimate)¹
- (10) Quotation Records
- (11) Computation Sheets
- (12) Backup of Annual Costs¹
- (13) Detailed Cost Estimates (Alternative Plans)
- (14) 3-1/2" Floppy Disks with All Project Files
- (15) File Folder

2. FEASIBILITY PHASE:

- a) Deliver To Customer By Prime Cost Engineer Thru The Unit Leader (1 Printed Copy):
 - (1) Appendix Cover Sheet
 - (2) Total Project Cost Summary (Fully Funded)
 - (3) Estimate of First Costs
 - (4) Contingency Justification of First Costs
 - (5) Basis of First Costs
 - (6) Summary of Annual Costs
 - (7) Detailed Estimate of Annual Costs
 - (8) Basis of Annual Costs
 - (9) MCACES (Summary Sheets)²
Supporting Data:
 - (10) MCACES (Complete Estimate)
 - (11) Detailed Cost Estimates (Alternative Plans)
 - (12) 3-1/2" Floppy Disks with All Project Files³
- b) Secretary For File (1 Printed Copy):
 - (1) Appendix Cover Sheet
 - (2) Total Project Cost Summary (Fully Funded)

³ Final Report only.

- (3) Estimate of First Costs
- (4) Contingency Justification of First Costs
- (5) Basis of First Costs
- (6) Summary of Annual Costs
- (7) Detailed Estimate of Annual Costs
- (8) Basis of Annual Costs
- (9) MCACES (Summary Sheets)²
Supporting Data:
- (10) MCACES (Complete Estimate)
- (11) Quotation Records
- (12) Computation Sheets
- (13) Backup of Annual Costs
- (14) Detailed Cost Estimates (Alternative Plans)
- (15) 3-1/2" Floppy Disks with All Project Files
- (16) File Folder

3. FEATURE DESIGN MEMORANDUM (FDM):

- a) Deliver To Customer By Prime Cost Engineer Thru The Unit Leader (1 Printed Copy):
 - (1) Appendix Cover Sheet
 - (2) Summary of First Cost
 - (3) Estimate of First Costs
 - (4) Contingency Justification of First Costs
 - (5) Basis of First Costs
 - (6) MCACES (Summary Sheets)²
Supporting Data:
 - (7) MCACES (Complete Estimate)
 - (8) Detailed Cost Estimates (Alternative Plans)
 - (9) 3-1/2" Floppy Disks with All Project Files³
- b) Secretary For File (1 Printed Copy):
 - (1) Appendix Cover Sheet

- (2) Summary of First Cost
- (3) Estimate of First Costs
- (4) Contingency Justification of First Costs
- (5) Basis of First Costs
- (6) MCACES (Summary Sheets)²
Supporting Data:
- (7) MCACES (Complete Estimate)
- (8) Quotation Records
- (9) Computation Sheets
- (10) Detailed Cost Estimates (Alternative Plans)
- (11) 3-1/2" Floppy Disks with All Project Files
- (12) File Folder

C. GOVERNMENT ESTIMATES:

1. PRE BID ESTIMATE:^{4 5}

- a) Deliver To Customer By Prime Cost Engineer Thru The Unit Leader (1 Printed Copy):
 - (1) Bidding Schedule (Draft)
 - (2) Completed Estimate (MCACES)
- b) Secretary For File (1 Printed Copy):
 - (1) Bidding Schedule
Supporting Data:
 - (2) Completed Estimate (MCACES)
 - (3) Quotation Records
 - (4) Computation Sheets
 - (5) Cost Distribution¹
 - (6) 3-1/2" Floppy Disks with All Project Files

⁴ Required for all projects over 1.0 million.

⁵ Required for all projects to be sent to Higher Headquarters.

- (7) File Folder
2. FAIR AND REASONABLE CONTRACT ESTIMATE: (IFB's, RFP's & 8-A's)
- a) Prime Cost Engineers Deliver To Secretary:
 - (1) Corps of Engineers (Draft) Cover Letter
 - (2) Bidding Schedule (Draft)
 - b) Secretary For Signature Routing and Deliver To Contracting:
 - (1) Corps of Engineers (Final) Cover Letter
 - (2) Bidding Schedule (Final)
Supporting Data:
 - (3) Envelope
 - (4) Routing Slip
 - (5) For Official Use Only Cover Folder
[Late Bids (Call our bid totals to location of opening)]
 - c) Secretary For File (1 Printed Copy):
 - (1) Corps of Engineers Cover Letter
 - (2) Bidding Schedule
Supporting Data:
 - (3) Routing Slip
 - (4) Completed Estimate (MCACES)
 - (5) Quotation Records
 - (6) Computation Sheets
 - (7) Cost Distribution (If required)
 - (8) 3-1/2" Floppy Disks with All Project Files
 - (9) File Folder
3. FAIR AND REASONABLE CONTRACT ESTIMATE (Mistake in Bid):
- a) Prime Cost Engineers Deliver To Secretary:
 - (1) Corps of Engineers (Revised Draft) Cover Letter
 - (2) Bidding Schedule (Revised Draft)

- (3) Corps of Engineers (Copy of Original) Cover Letter
- (4) Bidding Schedule (Copy of Original)
- b) Secretary For Signature Routing and Deliver To Contracting:
 - (1) Corps of Engineers (Revised Final) Cover Letter
 - (2) Bidding Schedule (Revised Final)
 - (3) Corps of Engineers (Copy of Original) Cover Letter
 - (4) Bidding Schedule (Copy of Original)
 - (5) Memo from Cost Engineering to Contracting
 - (6) Copy of Memo from Contracting to Cost Engineering
 - (7) Copy of Bid Abstract
Supporting Data:
 - (8) Routing Slip
 - (9) For Official Use Only Cover Folder
- c) Secretary For File (1 Printed Copy):
 - (1) Corps of Engineers (Revised Final) Cover Letter
 - (2) Bidding Schedule (Revised Final)
 - (3) Corps of Engineers (Copy of Original) Cover Letter
 - (4) Bidding Schedule (Copy of Original)
 - (5) Memo from Cost Engineering to Contracting
 - (6) Copy of Memo from Contracting to Cost Engineering
 - (7) Copy of Bid Abstract
Supporting Data:
 - (8) Routing Slip
 - (9) Completed Estimate (MCACES Revised)
 - (10) Quotation Records (Revised)
 - (11) Computation Sheets (Revised)
 - (12) Cost Distribution (If Required Revised)
 - (13) 3-1/2" Floppy Disks with All Project Files (Revised)
 - (14) File Folder

4. CONTROL ESTIMATE: (for IDC/PRAC Delivery Orders)

- a) Prime Cost Engineers Deliver To Secretary:
 - (1) Corps of Engineers (Draft) Cover Letter (Control Estimate)
 - (2) Bidding Schedule (Draft)
- b) Secretary For Signature And Deliver To Contracting:
 - (1) Corps of Engineers (Final) Cover Letter (Control Estimate)
 - (2) Bidding Schedule (Final)
Supporting Data:
 - (3) Routing Slip
 - (4) For Official Use Only Cover Folder
- c) Secretary Deliver To Customer (1 Printed Copy):
 - (1) Corps of Engineers Cover Letter
 - (2) Bidding Schedule
Supporting Data:
 - (3) Completed Estimate (MCACES)
 - (4) Cost Distribution (If required)
 - (5) 3-1/2" Floppy Disks with All Project Files
- d) Secretary For File (1 Printed Copy):
 - (1) Corps of Engineers Cover Letter (Control Estimate)
 - (2) Bidding Schedule
Supporting Data:
 - (3) Routing Slip
 - (4) Completed Estimate (MCACES)
 - (5) Quotation Records
 - (6) Computation Sheets
 - (7) Cost Distribution (If required)
 - (8) 3-1/2" Floppy Disks with All Project Files
 - (9) File Folder

STANDARD OPERATING PROCEDURES

PROCESSING COST ESTIMATES

DELIVERABLES

I. MILITARY AND HTRW DELIVERABLES

A. 3086 (Prepare In-House)

a) Deliver To Customer By Prime Cost Engineer Thru The Unit Leader):

(1) 3086 Completed

b) Secretary For File (1 Printed Copy):

(1) 3086 Completed
Supporting Data:

(2) Quotation Records

(3) Computation Sheets

(4) 3-1/2" Floppy Disks with All Project Files

(5) File Folder

B. CODE A (Army and Air Force, PARAMETRIC/MACES Joint Tasking)

a) Deliver To Customer By Prime Cost Engineer Thru The Unit Leader (Original Plus 2 Printed Copies):

(1) Completed Estimate (MCACES Army)

b) Secretary For File (1 Printed Copy):

(1) Completed Estimate (MCACES)
Supporting Data:

(2) Quotation Records

(3) Computation Sheets

(4) 3-1/2" Floppy Disks with All Project Files

(5) 813 (see instruction)

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(6) File Folder

C. CODE A (Air Force, RACER HTRW Joint Tasking)

a) Deliver To Customer By Prime Cost Engineer Thru The Unit Leader
(Original Plus 2 Printed Copies):

(1) Completed Estimate (RACER HTRW Air Force)

b) Secretary For File (1 Printed Copy):

(1) Completed Estimate (RACER)
Supporting Data:

(2) Quotation Records

(3) Computation Sheets

(4) 3-1/2" Floppy Disks with All Project Files

(5) 813 (see instruction)

(6) File Folder

D. CODE B and C

1. DESIGN COST ESTIMATES: (Prepare In-House)

a) Deliver To Customer By Prime Cost Engineer Thru The Unit Leader
(Original Plus 2 Printed Copies):

(1) Completed Estimate (MCACES)

(2) Secretary For File (1 Printed Copy):

(3) Completed Estimate (MCACES)
Supporting Data:

(4) Quotation Records

(5) Computation Sheets

(6) 3-1/2" Floppy Disks with All Project Files

(7) 813 (see instruction)

(8) File Folder

2. DESIGN COST ESTIMATES: (Prepared by A-E)

- a) Deliver To Secretary By Prime Cost Engineer Thru The Unit Leader (1 Printed Copy):
 - (1) Completed Estimate (MCACES)
Supporting Data:
 - (2) ARMS Comments
 - (3) Quotation Records
 - (4) Computation Sheets
 - (5) 3-1/2" Floppy Disks with All Project Files
 - (6) 813 (see instruction)
 - (7) File Folder

E. GOVERNMENT ESTIMATES (IFB's, RFP's & 8-A's):

1. FAIR AND REASONABLE CONTRACT ESTIMATE:

- a) Prime Cost Engineers Deliver To Secretary:
 - (1) Corps of Engineers (Draft) Cover Letter
 - (2) Bidding Schedule (Draft)
Supporting Data:
 - (3) Contract Funding Sheet (from PM)
 - (4) Funding Sheet (Part A & Part B)
- b) Secretary For Signature Routing to Contracting:
 - (1) Corps of Engineers (Final) Cover Letter
 - (2) Bidding Schedule (Final)
Supporting Data:
 - (3) Contract Funding Sheet (from PM)
 - (4) Funding Sheet (Part A & Part B)
 - (5) Envelope
 - (6) Routing Slip
 - (7) For Official Use Only Cover Folder
[Late Bids (Call our bid totals to location of opening)]
[FAX Funding Sheet (Part B to Location of opening)]
- c) Secretary Deliver To Customer (Original Plus 2 Printed Copies):

- (1) Corps of Engineers Cover Letter
 - (2) Bidding Schedule
Supporting Data:
 - (3) Contract Funding Sheet (from PM)
 - (4) Funding Sheet (Part A & Part B)
 - (5) Completed Estimate (MCACES)
 - (6) 3-1/2" Floppy Disks with All Project Files
- d) Secretary For File (1 Printed Copy):
- (1) Corps of Engineers Cover Letter
 - (2) Bidding Schedule
Supporting Data:
 - (3) Contract Funding Sheet (from PM)
 - (4) Funding Sheet (Part A & Part B)
 - (5) Routing Slip
 - (6) Completed Estimate (MCACES)
 - (7) Quotation Records
 - (8) Computation Sheets
 - (9) 3-1/2" Floppy Disks with All Project Files
 - (10) 813 (see instruction)
 - (11) File Folder

2. FAIR AND REASONABLE CONTRACT ESTIMATE (Mistake in Bid):

- a) Prime Cost Engineers Deliver To Secretary:
- (1) Corps of Engineers (Revised Draft) Cover Letter
 - (2) Bidding Schedule (Revised Draft)
 - (3) Corps of Engineers (Copy of Original) Cover Letter
 - (4) Bidding Schedule (Copy of Original)
- b) Secretary For Signature Routing and Deliver To Contracting:
- (1) Corps of Engineers (Revised Final) Cover Letter
 - (2) Bidding Schedule (Revised Final)

- (3) Corps of Engineers (Copy of Original) Cover Letter
 - (4) Bidding Schedule (Copy of Original)
 - (5) Memo from Cost Engineering to Contracting
 - (6) Copy of Memo from Contracting to Cost Engineering
 - (7) Copy of Bid Abstract
Supporting Data:
 - (8) Routing Slip
 - (9) For Official Use Only Cover Folder
- c) Secretary For File (1 Printed Copy):
- (1) Corps of Engineers (Revised Final) Cover Letter
 - (2) Bidding Schedule (Revised Final)
 - (3) Corps of Engineers (Copy of Original) Cover Letter
 - (4) Bidding Schedule (Copy of Original)
 - (5) Memo from Cost Engineering to Contracting
 - (6) Copy of Memo from Contracting to Cost Engineering
 - (7) Copy of Bid Abstract
Supporting Data:
 - (8) Routing Slip
 - (9) Completed Estimate (MCACES Revised)
 - (10) Quotation Records (Revised)
 - (11) Computation Sheets (Revised)
 - (12) Cost Distribution (If Required Revised)
 - (13) 3-1/2" Floppy Disks with All Project Files (Revised)
 - (14) File Folder

3. CONTROL ESTIMATE: (for IDC/PRAC Delivery Orders)

- a) Prime Cost Engineers Deliver To Secretary:
- (1) Corps of Engineers (Draft) Cover Letter (Control Estimate)
Supporting Data:
 - (2) Bidding Schedule (Draft)
 - (3) Contract Funding Sheet (from PM)

- (4) Funding Sheet (Part A & Part B)
- b) Secretary For Signature to Contracting:
 - (1) Corps of Engineers (Final) Cover Letter (Control Estimate)
 - (2) Bidding Schedule (Final)
Supporting Data:
 - (3) Contract Funding Sheet (from TM or PM)
 - (4) Funding Sheet (Part A & Part B)
 - (5) Routing Slip
 - (6) For Official Use Only Cover Folder
- c) Secretary Deliver To Customer (Original Plus 2 Printed Copies):
 - (1) Corps of Engineers Cover Letter
 - (2) Bidding Schedule
Supporting Data:
 - (3) Contract Funding Sheet (from TM or PM)
 - (4) Funding Sheet (Part A & Part B)
 - (5) Completed Estimate (MCACES)
 - (6) 3-1/2" Floppy Disks with All Project Files
[Late Bids (Call our bid totals to location of opening)]
- d) Secretary For File (1 Printed Copy)
 - (1) Corps of Engineers Cover Letter (Control Estimate)
 - (2) Bidding Schedule
Supporting Data:
 - (3) Contract Funding Sheet (from TM or PM)
 - (4) Funding Sheet (Part A & Part B)
 - (5) Routing Slip
 - (6) Completed Estimate (MCACES)
 - (7) Quotation Records
 - (8) Computation Sheets
 - (9) 3-1/2" Floppy Disks with All Project Files
 - (10) File Folder

APPENDIX A-F-B

(March 2000)

GOVERNMENT ESTIMATE SIGNATURE PROCEDURES

IFP, RFP & 8-A

.....

CIVIL WORKS SIGN OFF

1. COST ENGINEER
2. CIVIL WORKS UNIT(Initial)
3. COST ENGINEERING BRANCH
4. CIVIL PROGRAM SECTION
or OPERATION BRANCH (O&M)
5. CONTRACTING OFFICER:
CONTRACTING DIVISION

Original in envelope and deliver to Contracting Division

.....

HTRW SIGN OFF

1. COST ENGINEER
2. HTRW UNIT (Initial)
3. COST ENGINEERING BRANCH
4. CIVIL PROGRAM SECTION
or OPERATION BRANCH (O&M)
5. CONTRACTING OFFICER:
CONTRACTING DIVISION

Original in envelope and deliver to Contracting Division

.....

MILITARY SIGN OFF

1. COST ENGINEER
2. MILITARY UNIT (Initial)

3. COST ENGINEERING BRANCH

4. CONTRACTING OFFICER:
CONTRACTING DIVISION

Original in envelope and deliver to Contracting Division

.....

CONTROL ESTIMATES SIGN OFF

1. COST ENGINEER

2. COST ENGINEERING BRANCH

3. PROJECT MANAGER

Original in cover folder to Construction Division

.....

CHANGE ORDER ESTIMATES SIGN OFF

1. COST ENGINEER

2. COST ENGINEER UNIT

3. COST ENGINEERING BRANCH

4. PROJECT MANAGER

Original in cover folder to Construction Division

.....

FEASIBILITY REPORTS

CIVIL WORKS SIGN OFF

1. COST ENGINEER

2. COST ENGINEERING BRANCH

3. ENGINEERING DIVISION

4. REAL ESTATE DIVISION

5. PPMD

6. DISTRICT ENGINEER

7. PROJECT REVIEW BOARD

APPENDIX C

(March 2000)

SOFTWARE PROGRAMS

CIVIL WORKS PROJECTS:

MCACES Gold - Microcomputer-Aided Cost Estimating System

By: Building Systems Design, Inc. Atlanta, Georgia

LCCM - Life Cycle Cost Module (MCACES Gold)

By: Building Systems Design, Inc. Atlanta, Georgia

REP/PC - Range Estimating Program

By: Decision Sciences Corporation, Saint Louis, Missouri

HTRW PROJECTS:

MCACES Gold - Microcomputer-Aided Cost Estimating System

By: Building Systems Design, Inc. Atlanta, Georgia

RACER - Remedial Action Cost Engineering and Requirements Environmental Cost Engineering System

By: Delta Research Corporation, Niceville, Florida

REP/PC - Range Estimating Program

By: Decision Sciences Corporation, Saint Louis, Missouri

HAZRISK - By: Independent Project Analysis (IPA), Inc.

HCAS - Historical Costs Analysis System

By: Naval Facilities Engineering Command

MILITARY PROJECTS:

MCACES Gold - Microcomputer-Aided Cost Estimating System

By: Building Systems Design, Inc. Atlanta, Georgia

TRACES - Tri-Service Automated Cost Engineering System

By: Delta Research Corporation, Niceville, Florida

REP/PC - Range Estimating Program

By: Decision Sciences Corporation, Saint Louis, Missouri

HAG - Historical Analysis Generator

By: Headquarters, Washington

Other Software Programs:

Word Processing: MS Word

Spreadsheets: Excel

Project Scheduling: MS Project

ARMS

**QUALITY CONTROL ESTIMATE REVIEW
COST ENGINEERING BRANCH
SACRAMENTO DISTRICT**

DATE OF REVIEW: _____

INDEPENDENT REVIEWER: _____

PROJECT: _____

LOCATION: _____

ESTIMATOR(S): _____

REVIEW ITEMS	YES, NO, N/A
1. PROJECT WITHIN PROGRAMMED AMOUNT	
2. SOUNDNESS OF OVERALL ESTIMATE, SOUND JUDGMENT	
3. COMPLETENESS OF ESTIMATE	
4. REASONABLE ASSUMPTIONS MADE/INCLUDED	
5. MAJOR ELEMENTS OF PROJECT ESTIMATED REASONABLY	
6. QUOTES INCLUDED	
7. LABOR RATES CORRECT	
8. PRIME's AND SUB's OVERHEAD, PROFIT, & BOND REASONABLE	
9. TAX RATE CORRECT	
10. CONSTRUCTION CONTINGENCY AND S&A CORRECT	
11. ESCALATION INDICES OR INTEREST RATES CORRECT	
12. DESIGN CONTINGENCY APPROPRIATE	
13. INCLUSION OF "FUNDING AVAILABILITY" SHEET FROM TM/PM	
14. PROJECT TITLE CORRECT	
15. PREPARATION DATE CORRECT	
16. ESTIMATE IN CORRECT FORMAT	

ADDITIONAL COMMENTS ON ATTACHED SHEETS

YES

NO